

BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
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ELDERED, J

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3644
DATE MAILED:

08/29/01

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 6-13-01 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

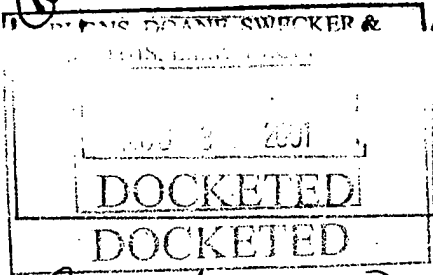
Part II SUMMARY OF ACTION

1. ☒ Claims 1-14, 16-25, and 27-30 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-14, 16-25 and 27-30 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.
Air Ligature
BURNS, DOANE, SWECKER & MATHIS L L P
ESG/NDP
14. ☐ Other

C.G.
8/31/01



J. Wooden Eldered

J. WOODEN ELDERED
PRIMARY EXAMINER
GROUP 226

Final Response Due 11/29/01

Art Unit: 3644

1. The invention contains subject matter which would admit illustration. Applicants are hereby required to provide drawings which show the claimed subject matter. The system for inerting an aircraft fuel tank should be shown or the subject matter canceled from the claims. Applicant is cautioned against the introduction of new subject matter. In regard to Applicants' argument against providing a drawing, the mere inclusion of a method claim does not mean that a drawing cannot be required. The structural claims in the application are hereby determined to need illustration in order to clearly indicate exactly what structure is being disclosed and claimed.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-14, 16-25, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al in view of Dornheim.

Edwards et al disclose a system and method for inerting an aircraft fuel tank which comprises contacting a first membrane module with compressed air to produce a first nitrogen-enriched air stream which is introduced into contact with the fuel in a fuel tank during periods of low demand for nitrogen-enriched air and contacting a second membrane module with compressed air to produce a second nitrogen-enriched air stream which is introduced into the fuel tank during periods of high demand for nitrogen-enriched air, and in which the first membrane has a lower O₂ permeance and a higher O₂/N₂ selectivity than the second membrane. See especially column 7, lines 30-44; column 10, line 61 – column 12, line 18; and Figure 13. Note that in the column 7, lines 30-44 reference to fibers with different “physical characteristics” to

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produce the gas streams with different purities, the fibers inherently must have the claimed selectivity and permeance in order to produce the disclosed gas streams. Edwards et al fail to disclose the specific parameters of flow rates or establishing conditions to liberate a portion of O₂ dissolved in the fuel. Dornheim teaches, see the third paragraph from the end, that in a fuel tank inerting system conditions are created in which "oxygen enrichment occurs from the dissolved air in the fuel." To substitute particular parameters and conditions in the fuel inerting system of Edwards et al in place of unspecified conditions are considered to have been a matter of design and engineering choice in order to achieve the desired performance of the system in a particular situation. To have the claimed flow rates and oxygen liberation is considered, without any indication of unexpected results, to have been obvious to one having ordinary skill in the art.

4. The Remarks filed with 6-13-01 have been considered but not found persuasive. Applicant indicated that it was unclear what the Examiner means by the phrase "read over" in the rejection. In the prosecution of patent applications, this is a standard term which indicates that the cited material anticipates the particular claim language. Therefore, the Examiner is saying that the broad claim language indicating that an "air stream is introduced into the fuel in the fuel tank" fails to distinguish over the prior art disclosure of the injection of pressurized air into the top of the fuel tank. Applicant is basically arguing the specification by apparently insisting that this phrase means that the inlet of the air streams must be below the upper liquid level of the fuel. This level of limitation is not indicated in the language of the claims. First of all, the introduction of pressurized air into the upper part of the fuel tank will inherently force some air molecules into the liquid, especially in a turbulent environment such as an aircraft in flight. Secondly, an aircraft in flight can maneuver such that the fuel in the tank can move around within the tank so that, even if the air is introduced into the top of the tank, the fuel could have moved into contact with the incoming air. In either case, the language of the claims fail to patentably distinguish over the cited prior art.

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5. Applicant's amendment made no changes in the claims and the claims are rejected exactly as in the prior Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is (703) 306-4151. The examiner can normally be contacted on Monday through Thursday, and alternate Fridays, from 8:00 a.m. to 5:30 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-4177.

J. Woodrow Eldred

J. WOODROW ELDR
PRIMARY EXAMINER
2009-04-02

Attachment for PTO-948 (Rev. 03/01, or earlier)

6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

06/01/01